

Claims

1. A device for cleaning the teats of an animal, including at least one first conduit member (1) and at least one teat-cleaning member (2), which via the first conduit member (1)
5 is connectable to a central arrangement (3) for supplying cleaning liquid and discharging waste liquid,

characterised in

that the teat-cleaning member (2) includes at least two
10 teat-cleaning cups (5) to be applied to a respective teat of the animal, a conduit assembly (6) and two second conduit members (7) extending between a respective one of the teat-cleaning cups (5) and the conduit assembly (6), and
that each teat-cleaning cup (5) is connected to the central
15 arrangement (3) via the respective second conduit member (7) and the first conduit member (1) for said supply of cleaning liquid and said discharge of waste liquid.

2. A device according to claim 1, characterised in that
20 the central arrangement (3) is arranged to discharge the waste liquid by applying a pressure significantly lower than the atmospheric pressure to the teat-cleaning cups (5) via the conduit members (1, 7).

25 3. A device according to any one of claims 1 and 2, characterised in that each conduit member (1, 7) includes a supply conduit (11, 13) for the supply of the cleaning liquid to said teat-cleaning cup (5), and a discharge conduit (12, 14) for the discharge of waste liquid from said
30 teat-cleaning cup (5).

4. A device according to claims 2 and 3, characterised in
that the central arrangement (3) is arranged to perform the
supply of cleaning liquid and the discharge of waste liquid
35 simultaneously.

5. A device according to any one of the preceding claims, characterised in that the conduit assembly includes a connection member (6'), which connects each second conduit member (7) to the first conduit member (1).

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6. A device according to claims 3 and 5, characterised in that the supply conduit (13) of each second conduit member (7) is connected to the supply conduit (11) of the first conduit member (1), and that the discharge conduit (14) of each second conduit member (7) is connected to the discharge conduit (12) of the first conduit member (1).

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7. A device according to any one of claims 1-4, characterised in that the conduit assembly includes a connection member arranged to hold the conduit members (1, 7) together.

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8. A device according to any one of the preceding claims, characterised in that the teat-cleaning member (2) includes a casing (30) enclosing the connection member (6') and having a first opening (31) for the passage of the first conduit member (1) and at least two second openings (32) for the passage of a respective one of the second conduit members (7).

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9. A device according to any one of the preceding claims, characterised in that each second conduit member (7) is relatively rigid permitting the second conduit member (7) and the associated teat-cleaning cup (5) to extend in an upward direction (x).

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10. A device according to any one of the preceding claims, characterised in that the teat-cleaning member (2) includes a grip member (33) permitting holding of the teat-cleaning member.

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11. A device according to claims 8 and 10, characterised in that the grip member (33) is provided on the casing (30).
12. A device according to any one of the preceding claims,
5 characterised in that the device includes a carrying arrangement (40) for carrying the teat-cleaning member (2).
13. A device according to claim 12, characterised in that
10 the carrying arrangement is adapted to permit the teat cleaning member (2) to be movable.
14. A device according to claim 13, characterised in that
15 the teat cleaning member (2) is movable between at least an inactive position (A) beside the animal to be cleaned and an active position (B) beneath the teats of the animal.
15. A device according to any one of claims 12 to 14,
20 characterised in that the carrying arrangement is adapted to permit the teat-cleaning member (2) to be attached to the animal and to follow the animal during a movement of the animal.
16. A device according to any one of claims 14 and 15,
25 characterised in that the carrying arrangement includes a support arm, which carries the teat-cleaning member and is movable in such way that said positions of the teat-cleaning member are reachable.
17. A device according to any one of claims 12 to 15,
30 characterised in that the carrying arrangement (40) includes at least one rail (41) and a carriage (42) movable along the rail (41), wherein the teat-cleaning (2) member is suspended in the carriage (42) via a wire-like member (44).
18. A device according to claim 17, characterised in that
35 the carrying arrangement (40) includes at least one holding

member (46) for holding the first conduit member (1) along the wire-like member (44) and the carriage (42).

5 19. A device according to claim 18, characterised in that said holding member (46) forms an open passage through which the first conduit member (1) is movable.

10 20. A device according to any one of claims 17 to 19, characterised in that the device includes a balancing member (48) enabling the teat-cleaning member (2) to be raised and lowered by the application of a force smaller than the gravity force of the teat-cleaning member (2) proper.

15 21. A device according to claim 20, characterised in that the balancing member (48) is provided on the carriage (42).

20 22. A device according to any one of claims 20 and 21, characterised in that the balancing member (48) is arranged to collect the wire-like member (44).

23. A device according any one of the preceding claims, characterised in that each teat-cleaning cup (2) includes a lower end (52), an upper end (53) and an inner space (54), the upper end defining an opening (55) for the introduction
25 of the teat to be cleaned into the inner space.

24. A device according to claim 23, characterised in that each teat-cleaning cup (5) includes a flexible lip (60) extending around the opening (55) and inwardly towards a
30 centre of the opening in order to abut tightly the teat introduced into the inner space (54) of the teat-cleaning cup (5).

25. A device according to claim 24, characterised in that
35 the lip (60) slopes downwards towards the centre of the opening (55).

26. A device according to any one of the preceding claims,
characterised in that the teat-cleaning device includes a
retracting member (70) arranged for retracting the teat-
5 cleaning member (2) from the teats of the animal after the
cleaning operation is finished.

27. A milking stall including a device according to any one
of the preceding claims.

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28. A milking stall according to claim 26, characterised in
that the milking stall includes a number of milking boxes,
each being adapted to receive one animal.

15 29. A milking stall according to claim 28, characterised in
that the milking boxes are arranged as a one of a
herringbone milking parlour, a tandem milking parlour, a
parallel milking parlour and a rotary milking parlour.

20 30. A milking stall according to any one of claims 27 to
29, characterised in that the milking stall includes a
milking machine having a number of teatcups to be attached
to the teats of the animal to be milked, and an apparatus
for automatic attachment of the teatcups to the teats of the
25 animal.